FILE C

Mathematics

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Item Information and Scoring Guide Reference Sheet

The following pages are designed to assist you in understanding how Maine Educational Assessment (MEA) items are scored. These pages contain the text for each released item accompanied by the following information.

Multiple-Choice Items

The boxes containing the multiple-choice items also contain the percent of students statewide who chose each answer option. The correct option is asterisked(*).

- **MC#:** the multiple-choice item position in the Class Analysis Report
  One point may be earned for a multiple-choice item.
- **Key:** the letter of the correct answer for the multiple-choice item
- **Calculator:** indication of whether a calculator was an allowed tool in the session during which the item was administered
- **Cluster:** the cluster the item measured
- **Content Standard:** the content standard that the item measured
- **Grade Level Expectation (GLE):** the grade level expectation that the item measured

Short-Answer Items

- **SA#:** the short-answer item position in the Class Analysis Report
  Up to two points may be earned for a short-answer item.
- **Calculator:** indication of whether a calculator was an allowed tool in the session during which the item was administered
- **Cluster:** the cluster the item measured
- **Content Standard:** the content standard that the item measured
- **Grade Level Expectation (GLE):** the grade level expectation that the item measured
- **Short-Answer Scoring Guide:** the description of each score point used to determine the score, including the percent of students statewide who received each score and the statewide average student score
- **Training Notes:** in-depth descriptions or particular information used to determine the score
- **Annotated Student Response:** sample student response for each score point with annotations that explain the reasoning behind the assigned score

Item Information and Scoring Guide Reference Sheet

Constructed-Response Items

- **CR#:** the constructed-response item position in the Class Analysis Report
  Up to four points may be earned for a constructed-response item.
- **Calculator:** indication of whether a calculator was an allowed tool in the session during which the item was administered
- **Cluster:** the cluster the item measured
- **Content Standard:** the content standard that the item measured
- **Grade Level Expectation (GLE):** the grade level expectation that the item measured
- **Constructed-Response Scoring Guide:** the description of each score point used to determine the score, including the percent of students statewide who received each score and the statewide average student score
- **Training Notes:** in-depth descriptions or particular information used to determine the score
- **Annotated Student Response:** sample student response for each score point with annotations that explain the reasoning behind the assigned score

MEA 2005–2006

Mathematics Grade 6

The table below shows the entire MEA mathematics test design. Half of the common items are released and can be found in this document. Item information for all item types, scoring information (average scores, guides, and training notes) for all short-answer and constructed-response items, and annotated student responses follow.

2005–2006 MEA MATHEMATICS TEST DESIGN

Content Area	Common			Embedded Field Test			Total Items per Student			Base Testing Time	Points
	MC	CR	SA	MC	CR	SA	MC	CR	SA		
Mathematics	32	3	6	8	2	2	40	5	8	105 min.	56

Each item on the MEA measures a grade level expectation based on Maine's *Learning Results*. Score points for items are accumulated and reported in clusters. Each content standard is included in a cluster as indicated below.

Mathematics Clusters

1. **Numbers and Operations**
   - Numbers and Number Sense
   - Computation
   - Discrete Mathematics

2. **Shape and Size**
   - Geometry
   - Measurement

3. **Mathematical Decision Making**
   - Data Analysis and Statistics
   - Probability
   - Mathematical Reasoning

4. **Patterns**
   - Patterns, Relations, and Functions
   - Algebra Concepts
   - Mathematical Communication

1. Which quotient is greater than 1?

9%	A.	$4 \div 4$
44%	B.	$3 \div 8$
6%	C.	$5 \div 6$
*40%	D.	$7 \div 5$

MC#: 1
Key: D
Calculator : Not Allowed
Cluster: Numbers and Operations
Content Standard A: Numbers and Number Sense- Students will understand and demonstrate a sense of what numbers mean and how they are used.
GLE: A1.6- Students will be able to compare, order, use and represent fractions, (halves, thirds, fourths, fifths, sixths, eighths, and tenths with all numerators); and compare, order, use and represent decimals to thousandths and convert between decimals and percentages.

2. The sales tax in a state is 6%. What is 6% written as a decimal?

2%	A.	0.006
*42%	B.	0.06
42%	C.	0.6
13%	D.	6.0

MC#: 2
Key: B
Calculator: Not Allowed
Cluster: Numbers and Operations
Content Standard A: Numbers and Number Sense- Students will understand and demonstrate a sense of what numbers mean and how they are used.
GLE: A1.6- Students will be able to compare, order, use and represent fractions, (halves, thirds, fourths, fifths, sixths, eighths, and tenths with all numerators); and compare, order, use and represent decimals to thousandths and convert between decimals and percentages.

3. Jana is making cookies using a recipe that calls for $\frac{3}{4}$ cup of sugar. If she doubles the recipe, how much sugar should she use?

13%	A.	$1\frac{1}{4}$ cups
14%	B.	$1\frac{3}{8}$ cups
*56%	C.	$1\frac{1}{2}$ cups
17%	D.	$1\frac{3}{4}$ cups

MC#: 3
Key: C
Calculator: Not Allowed
Cluster: Numbers and Operations
Content Standard B: Computation - Students will understand and demonstrate computation skills (no calculator use for straight computation; numbers used in this section should match those listed for Standard A).
GLE: B1.6- Students will be able to compute and model all four operations with whole numbers, common fractions and decimals to thousandths, and do straight computation with these numbers and operations. Division limited to 2-digit whole number divisors and 3-digit dividends.

4. Members of the bike club are on a 52.5-kilometer bike trip. They have traveled 24.75 kilometers so far. How many kilometers do they have left?

9%	A.	19.50 kilometers
*59%	B.	27.75 kilometers
20%	C.	27.85 kilometers
12%	D.	32.25 kilometers

MC#: 4
Key: B
Calculator: Not Allowed
Cluster: Numbers and Operations
Content Standard B: Computation - Students will understand and demonstrate computation skills (no calculator use for straight computation; numbers used in this section should match those listed for Standard A).
GLE: B1.6- Students will be able to compute and model all four operations with whole numbers, common fractions and decimals to thousandths, and do straight computation with these numbers and operations. Division limited to 2-digit whole number divisors and 3-digit dividends.

5. At Lincoln School, 24 people volunteered to clean up a hiking trail at a park. The trail is $4\frac{1}{2}$ miles long. The volunteers will break up into groups with 6 people in each group. Each group will clean an equal portion of the trail. How much of the trail will each group clean?

31%	A.	$\frac{3}{4}$ mile
*36%	B.	$1\frac{1}{8}$ miles
11%	C.	$1\frac{3}{8}$ miles
21%	D.	$1\frac{1}{2}$ miles

MC#: 5
Key: B
Calculator: Not Allowed
Cluster: Numbers and Operations
Content Standard B: Computation- Students will understand and demonstrate computation skills (no calculator use for straight computation; numbers used in this section should match those listed for Standard A).
GLE: B2.6– Students will be able to create, solve, and justify the solution for multi-step, real-life problems with whole numbers, common fractions and decimals to thousandths, with division limited to 2-digit whole number divisors and 3-digit dividends.

6. Jenny is learning to play the trumpet.

   - She rents a trumpet for 6 months at $21 a month.
   - The lessons cost $25 for each session.
   - Jenny takes 18 lessons.

   What is the total cost for her trumpet rental and lessons? Show all your work.

SA#: 6
Calculator: Not Allowed
Cluster: Numbers and Operations
Content Standard B: Computation- Students will understand and demonstrate computation skills (no calculator use for straight computation; numbers used in this section should match those listed for Standard A).
GLE: B2.6– Students will be able to create, solve, and justify the solution for multi-step, real-life problems with whole numbers, common fractions and decimals to thousandths, with division limited to 2-digit whole number divisors and 3-digit dividends.

SHORT-ANSWER SCORING GUIDE

Percentage of Statewide Student Scores	Score	Description
47%	2	Correct answer ($576) and correct work shown
25%	1	Correct answer with little or no work or irrelevant work OR Incorrect answer with minor error in otherwise clear relevant work
26%	0	Response is incorrect and there is no relevant correct work.
2%	Blank	No response.
1.19	Statewide average student score.	

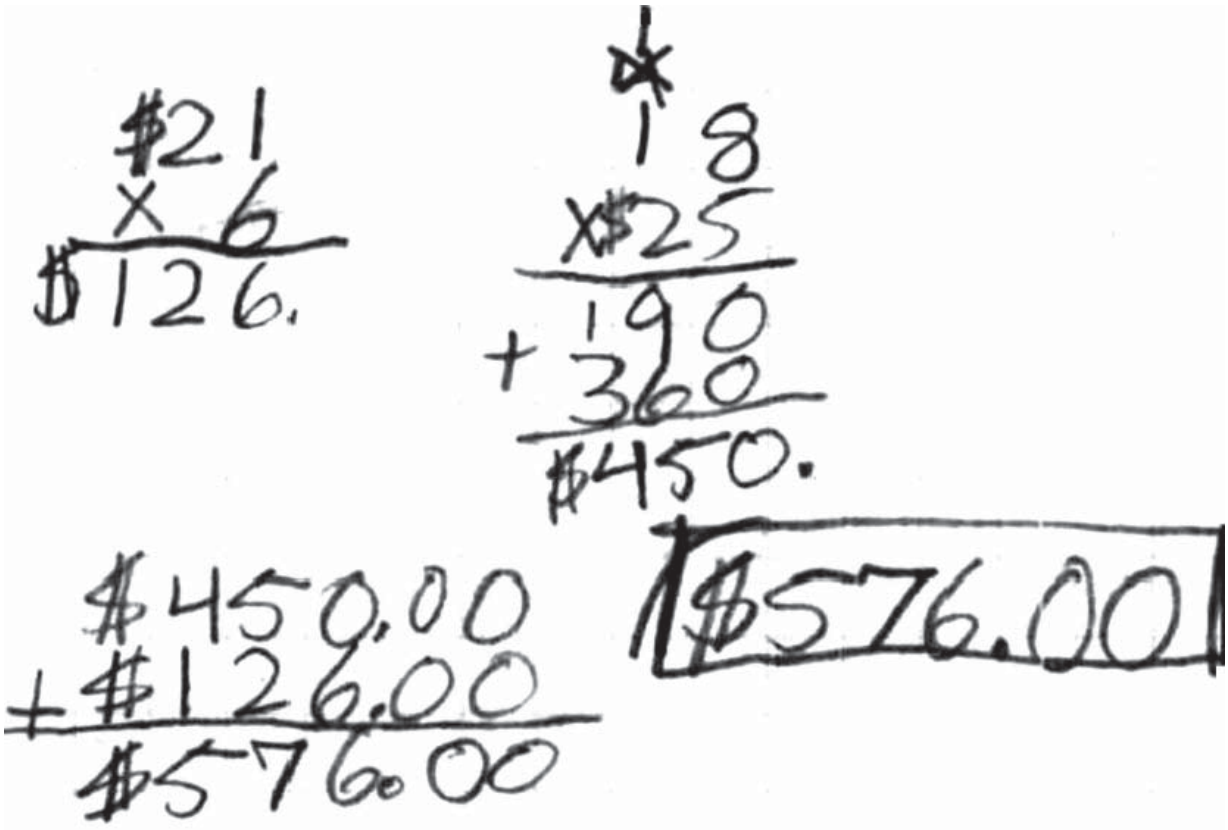
Training Notes for Short-Answer Item 6

Sample Response

$(21 \times 6) + (18 \times 25) = 126 + 450 = 576$

Sample 2-Point Response with Annotations for Short-Answer Item 6

6.

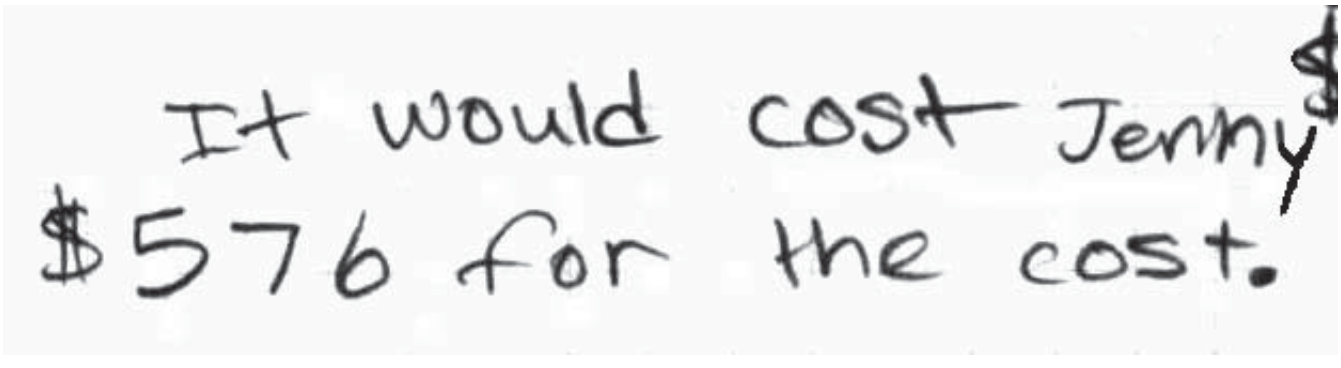


Summary annotation statement:

The student provides the correct answer with correct work shown.

Sample 1-Point A Response with Annotations for Short-Answer Item 6

6.

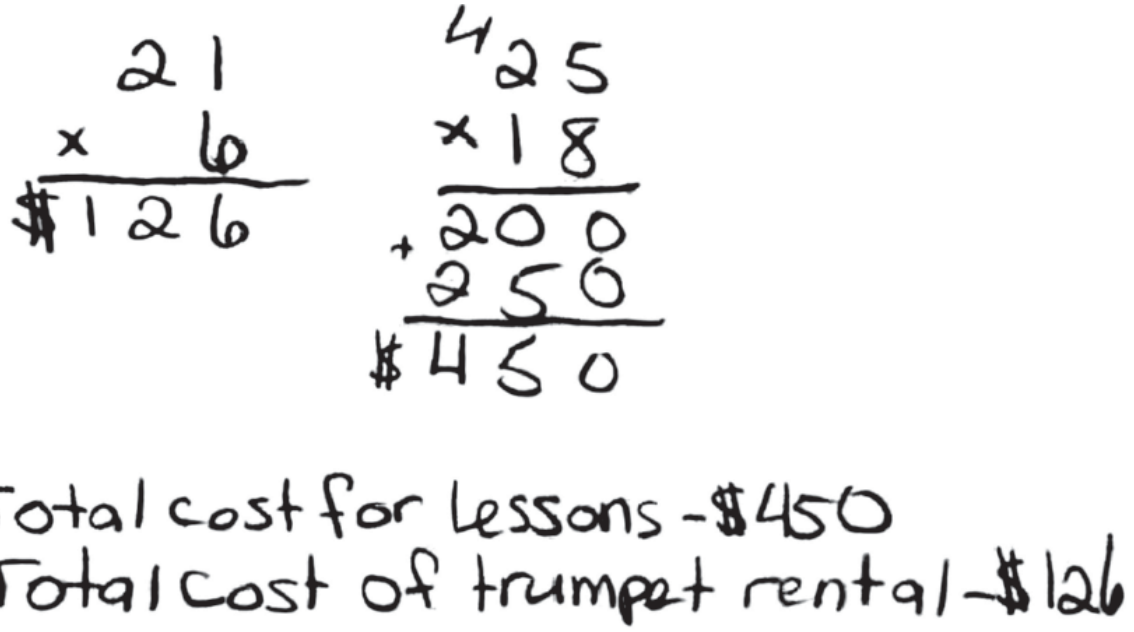


Summary annotation statement:

The student provides the correct answer with no work shown.

Sample 1-Point B Response with Annotations for Short-Answer Item 6

6.

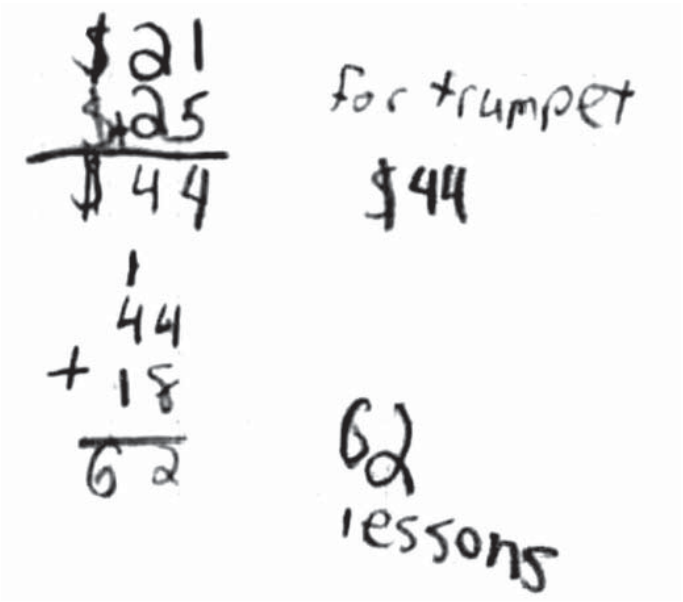


Summary annotation statement:

There is a minor error in the otherwise clear, relevant work. The student found the cost of renting the trumpet and the cost of lessons, but did not add the rental and lessons costs together.

Sample 0-Point Response with Annotations for Short-Answer Item 6

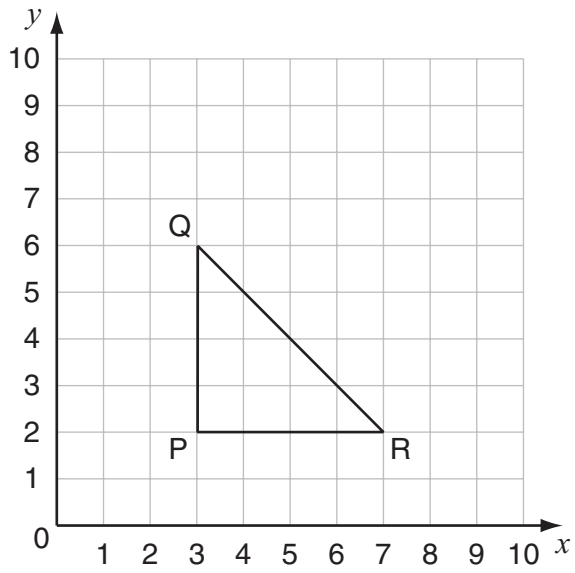
6.



Summary annotation statement:

The student provides an incorrect answer with incorrect work shown.

7. Look at the right triangle below.



a. What are the coordinates of vertex R?

b. Using the grid in your answer booklet, draw a new triangle, PQT, that uses the original point P, the original point Q, and a new point T so that triangle PQT is an obtuse triangle. What are the coordinates of point T?

c. Using the same grid, draw the triangle that has vertices K(3,8), L(9,9), and M(9,5).

CR#: 7
Calculator: Not Allowed
Cluster: Shape and Size
Content Standard E: Geometry- Students will understand and apply concepts from geometry.
GLE: E1.6 – Students will be able to use properties/attributes limited to number of sides, number of angles, and length of sides, lines of symmetry, parallel sides, perpendicular sides, and angles relative to 90 degrees to classify polygons; and to compare and classify rectangular prisms, including cubes; and triangular prisms.

Percentage of Statewide Student Scores	Score	Description
11%	4	5 points
12%	3	4 points
22%	2	2 or 3 points
21%	1	1 point OR Student shows minimal understanding of concepts measured in this item.
30%	0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
4%	Blank	No response.
1.45	Statewide average student score.	

Training Notes for Constructed-Response Item 7

Part a: 1 point for correct answer (7, 2)

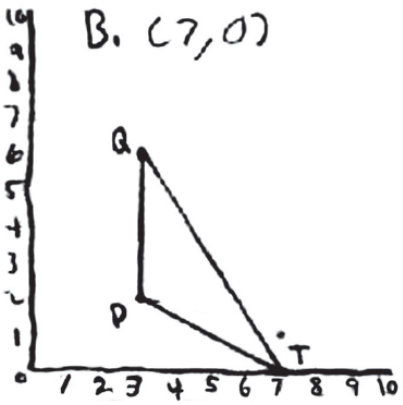
Part b: 1 points for drawing an obtuse triangle using the original points P and Q
AND
1 point for giving the correct coordinates of the student's point T

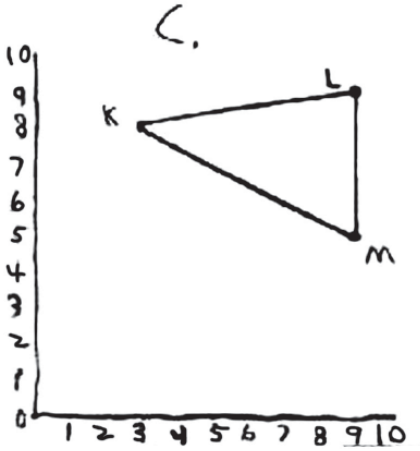
Part c: 2 points for drawing triangle KLM with all three points in the correct orientation and proportion to one another
OR
1 point for plotting two of the three points correctly. A triangle may or may not be drawn.

Note: (,) not needed for coordinate recording

Sample 4-Point Response with Annotations for Constructed-Response Item 7

7. A (7, 2)

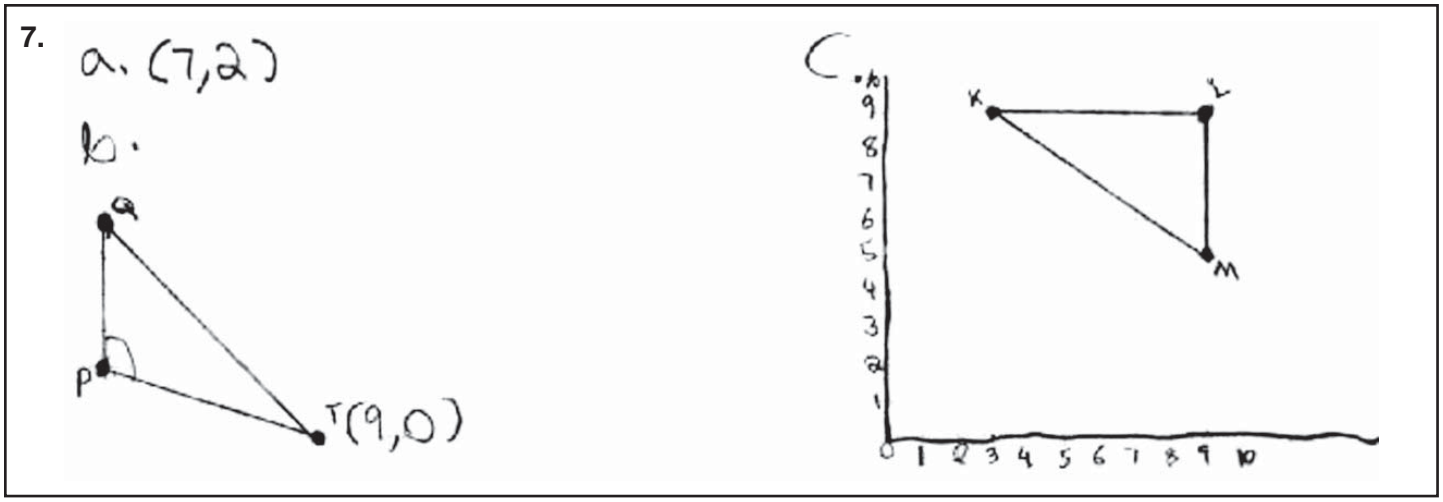




Summary annotation statement:

This student receives 1 point in part a for giving the correct coordinates for point R. He or she receives 2 points in part b for correctly forming an obtuse triangle with point T and giving the correct coordinates. In part c the student earns 2 points for correctly drawing triangle KLM with the correct orientation and proportion. Using the scoring guide, 5 total points earns a score point 4.

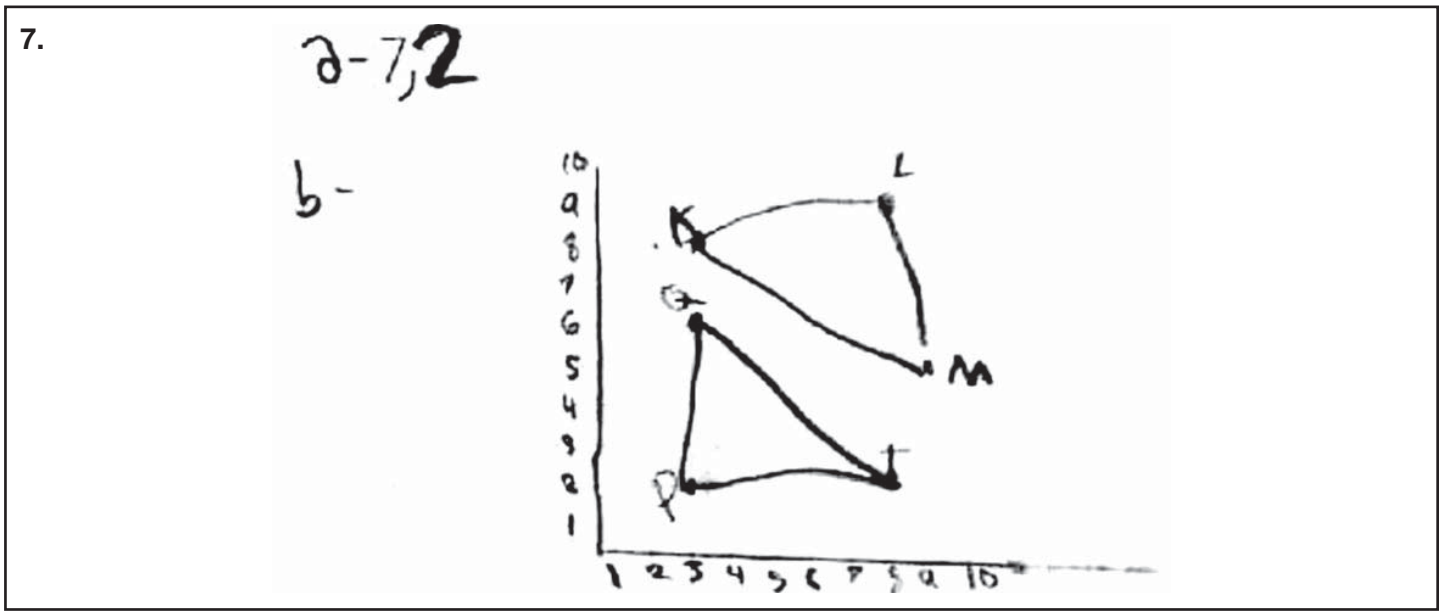
Sample 3-Point Response with Annotations for Constructed-Response Item 7



Summary annotation statement:

The student earns 1 point in part a for giving the correct coordinates for point R. In part b he or she earns 2 points for correctly forming an obtuse triangle with point T and giving the correct coordinates. This student also earns 1 point in part c for plotting points L and M correctly. According to the scoring guide, 4 total points earns a score point 3.

Sample 2-Point Response with Annotations for Constructed-Response Item 7

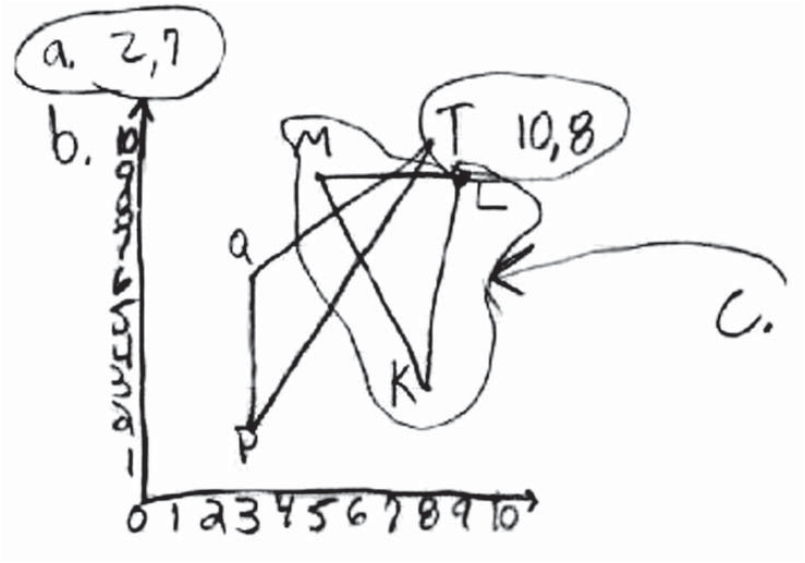


Summary annotation statement:

This student correctly gives the coordinates for point R in part a and receives 1 point. In part b he or she earns no points because triangle PQT is not an obtuse triangle, and no coordinates are given for point T. The student earns 1 point in part c for plotting points K and M correctly. According to the scoring guide, 2 total points earns a score point 2. Note: the mark between the letter for part a and the coordinates is considered a hyphen and not an answer of (-7,2). The same hyphen is used after the letter for part b.

Sample 1-Point Response with Annotations for Constructed-Response Item 7

7.

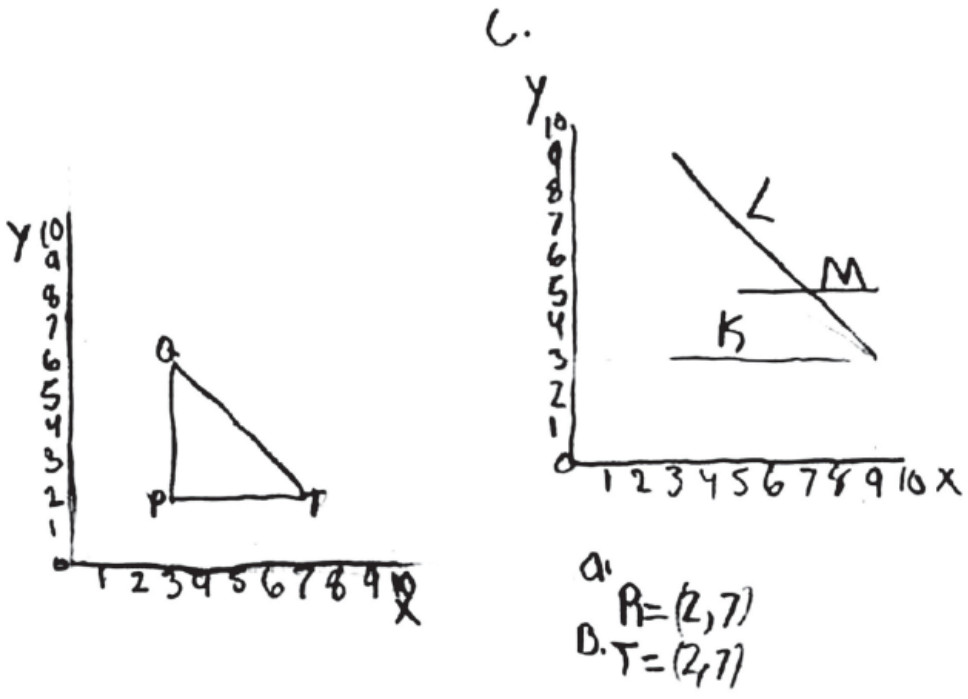


Summary annotation statement:

This student receives no points in part a for providing the incorrect coordinates for point R. He or she receives 1 point in part b for plotting obtuse triangle PQT, but the coordinates for point T are incorrect. Using the scoring guide, 1 total point earns a score point 1.

Sample 0-Point Response with Annotations for Constructed-Response Item 7

7.



Summary annotation statement:

This student provides the incorrect answers to all parts of the question.

8. Which two numbers have a greatest common factor of 6 and a least common multiple of 60?

13%	A.	12 and 15
10%	B.	24 and 15
*56%	C.	12 and 30
21%	D.	24 and 30

MC#: 8
Key: C
Calculator: Allowed
Cluster: Numbers and Operations
Content Standard A: Numbers and Number Sense- Students will understand and demonstrate a sense of what numbers mean and how they are used.
GLE: A3.6– Students will be able to recognize and apply concepts of prime and composite numbers and use divisibility rules for 2, 3, 4, 5, 6, 9 and 10; and recognize and find factors and multiples of natural numbers.

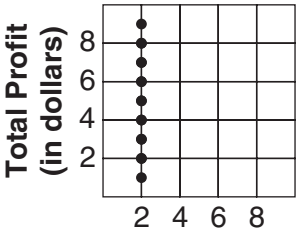
9. Maile bought 3 notebooks for $2 each. She paid with a $10 bill. Which number sentence can be used to find how much change, in dollars, Maile will get?

*70%	A.	$10 - (3 \times 2) = \square$
6%	B.	$(10 - 3) \times 2 = \square$
4%	C.	$3 \times 10 - 2 = \square$
19%	D.	$2 \times 3 - 10 = \square$

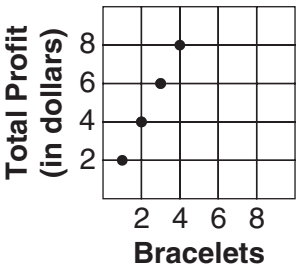
MC#: 9
Key: A
Calculator: Allowed
Cluster: Patterns
Content Standard G: Patterns, Relations, and Functions- Students will understand that mathematics is the science of patterns, relationships, and functions.
GLE: G1.6– Students will be able to translate real-life situations into addition, subtraction, multiplication, and division sentences with whole numbers (mix of operations included).

10. Jill makes a $2 profit on every friendship bracelet she sells. Which graph shows the relationship between the total profit and the number of bracelets sold?

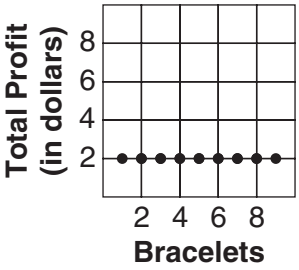
13% A.



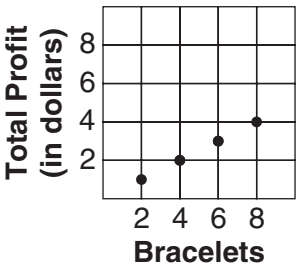
*42% B.



20% C.

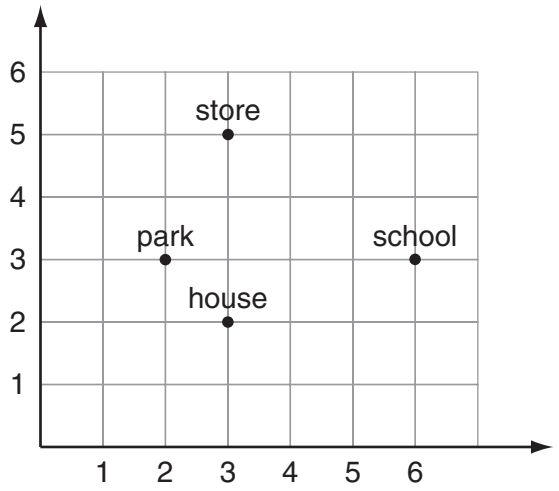


24% D.



MC#: 10
Key: B
Calculator: Allowed
Cluster: Patterns
Content Standard G: Patterns, Relations, and Functions- Students will understand that mathematics is the science of patterns, relationships, and functions.
GLE: G3.6- Students will be able to solve problems involving linear patterns in the form of tables, graphs, words, rules and equations using whole numbers, decimals to hundredths and simple fractions.

11. A map of Maria's town is shown below.



Where is the park located?

*67%	A.	(2,3)
30%	B.	(3,2)
1%	C.	(6,3)
1%	D.	(3,5)

MC#: 11
Key: A
Calculator: Allowed
Cluster: Shape and Size
Content Standard E: Geometry - Students will understand and apply concepts from geometry.
GLE: E3.6– Students will be able to use ordered pairs as coordinates of points in the first quadrant of a coordinate plane.

12. In the formula below, r stands for rate, d for distance, and t for time.

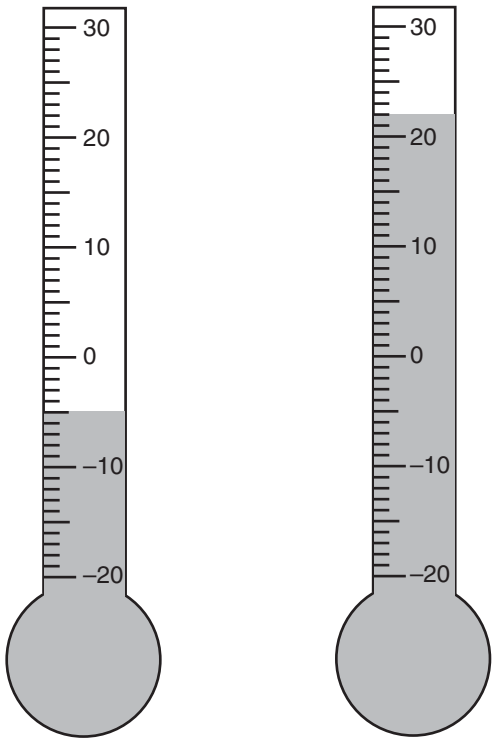
$$r = \frac{d}{t}$$

Tracy uses this formula to find the rate at which she jogs. One day she jogged 9 miles in 1.5 hours. What was her rate?

15%	A.	13.5 miles per hour
22%	B.	10.5 miles per hour
*50%	C.	6 miles per hour
12%	D.	4 miles per hour

MC#: 12
Key: C
Calculator: Allowed
Cluster: Patterns
Content Standard H: Algebra Concepts- Students will understand and apply algebraic concepts.
GLE: H6.6– Students will be able to solve one-step equations using whole numbers with all four operations.

13. Sally looked at her outdoor thermometer at two different times as shown below.



7 A.M. Noon

By how many degrees did the temperature increase between 7:00 a.m. and noon?

5%	A.	5°
13%	B.	17°
14%	C.	22°
*68%	D.	27°

MC#: 13
Key: D
Calculator: Allowed
Cluster: Shape and Size
Content Standard F: Measurement- Students will understand and demonstrate measurement skills.
GLE: F2.6- Students will be able to solve problems using elapsed time, thermometers, and scales.

14. A box of ice pops has 3 grape, 3 cherry, 3 banana, and 3 orange ice pops. James took a cherry ice pop out of the box. Then Renee reached into the box without looking and took an ice pop. What is the chance that Renee will get one of her favorite flavors, grape or cherry?

16%	A.	$\frac{2}{11}$
22%	B.	$\frac{2}{12}$
*38%	C.	$\frac{5}{11}$
23%	D.	$\frac{5}{12}$

MC#: 14
Key: C
Calculator: Allowed
Cluster: Mathematical Decision Making
Content Standard D: Probability- Students will understand and apply concepts of probability.
GLE: D1.6- Students will be able to find the probabilities of simple events (sample space number and number of desired outcomes given) and represent them as fractions (simplest form not needed).

15. The chart below shows the sandwich choices for lunch.

Sandwich Choices

Bread	Meat	Cheese
white	turkey	cheddar
wheat	ham	American

A sandwich choice consists of one bread, one meat, and one cheese. How many sandwich choices are available?

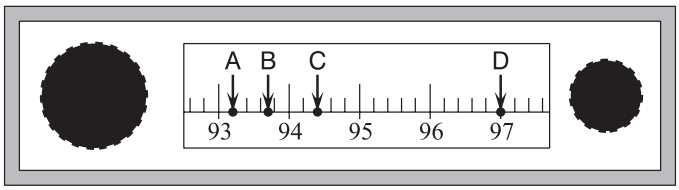
11%	A. 2
5%	B. 3
30%	C. 6
*54%	D. 8

MC#: 15
Key: D
Calculator: Allowed
Cluster: Mathematical Decision Making
Content Standard D: Probability – Students will understand and apply concepts of probability.
GLE: D4.6 – Students will be able to find the number of arrangements of 3 factors with no more than 4 choices per factor (e.g., tree diagram, organized list, pictures).

16. A shop sells small posters that have an area of 15 square feet. The shop also sells large posters that have lengths and widths 2 times as big as those of the small posters. What is the area of the large posters?

6%	A.	17 square feet
69%	B.	30 square feet
6%	C.	45 square feet
*18%	D.	60 square feet

MC#: 16
Key: D
Calculator: Allowed
Cluster: Shape and Size
Content Standard F: Measurement - Students will understand and demonstrate measurement skills.
GLE: F3.6– Students will be able to compute the area and perimeter of triangles and rectangles with whole numbers (formula use), and find the volume of rectangular solids using pictures of blocks or gridded diagram with correct units.



17. WMTH can be found at 93.7 on your radio dial. Which letter shown above represents where you would find WMTH if you wanted to listen to a broadcast?

15%	A. letter A
*77%	B. letter B
5%	C. letter C
4%	D. letter D

MC#: 17
Key: B
Calculator: Allowed
Cluster: Numbers and Operations
Content Standard A: Numbers and Number Sense- Students will understand and demonstrate a sense of what numbers mean and how they are used.
GLE: A1.6 – Students will be able to compare, order, use and represent fractions, (halves, thirds, fourths, fifths, sixths, eighths and tenths with all numerators); and compare, order, use and represent decimals to thousandths and convert between decimals and percentages.

18. The chart below shows prices for some of the shirts on sale at ClothesMart.

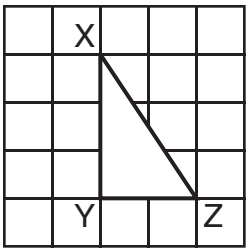
All Shirts on Sale!!
Sample Sale Prices

Regular Price	Sale Price
$ 8.00	$ 6.00
$12.00	$ 9.00
$16.00	$12.00
$20.00	$15.00

Based on the pattern in the chart, what would be the sale price for a shirt with a regular price of $22.00?

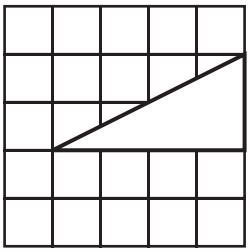
*36%	A.	$16.50
22%	B.	$17.00
9%	C.	$17.50
32%	D.	$18.00

MC#: 18
Key: A
Calculator: Allowed
Cluster: Patterns
Content Standard G: Patterns, Relations, and Functions- Students will understand that mathematics is the science of patterns, relationships, and functions.
GLE: G3.6- Students will be able to solve problems involving linear patterns in the form of tables, graphs, words, rules and equations using whole numbers, decimals to hundredths and simple fractions.

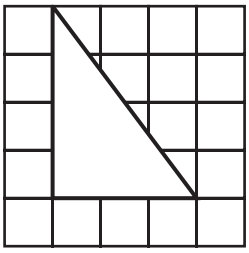


19. Which triangle is congruent to triangle XYZ?

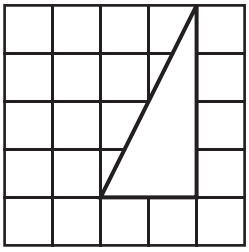
8% A.



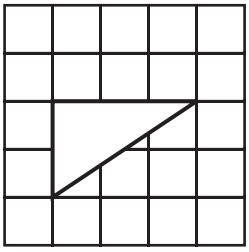
18% B.



14% C.



*59% D.



MC#: 19
Key: D
Calculator: Allowed
Cluster: Shape and Size
Content Standard E: Geometry- Students will understand and apply concepts from geometry.
GLE: E1.6 – Students will be able to use properties/attributes limited to number of sides, number of angles, length of sides, lines of symmetry, parallel sides, perpendicular sides, and angles relative to 90 degrees to classify polygons; and to compare and classify rectangular prisms, including cubes; and triangular prisms.

20. A farmer has decided to expand the area of her land that she will use to grow corn. The chart below shows the plans for expanding the area of corn over the next few years.

Year	Acres of Corn
1	65
2	90
3	115
4	140

If this pattern continues, how many acres of corn will the farmer have in 6 years? Explain your answer.

SA#: 20
Calculator: Allowed
Cluster: Patterns
Content Standard G: Patterns, Relations, and Functions- Students will understand that mathematics is the science of patterns, relationships, and functions.
GLE: G3.6 – Students will be able to solve problems involving linear patterns in the form of tables, graphs, words, rules and equations using whole numbers, decimals to hundredths and simple fractions.

SHORT-ANSWER SCORING GUIDE

Percentage of Statewide Student Scores	Score	Description
65%	2	Correct answer (190) and relevant work or explanation.
17%	1	Correct answer without explanation or with vague explanation or with error(s) in work. OR Incorrect answer but explanation clearly demonstrates that student understands the linear (plus 25) pattern.
16%	0	Response is incorrect and there is no relevant correct work.
1%	Blank	No response.
1.48	Statewide average student score.	

Training Notes for Short-Answer Item 20

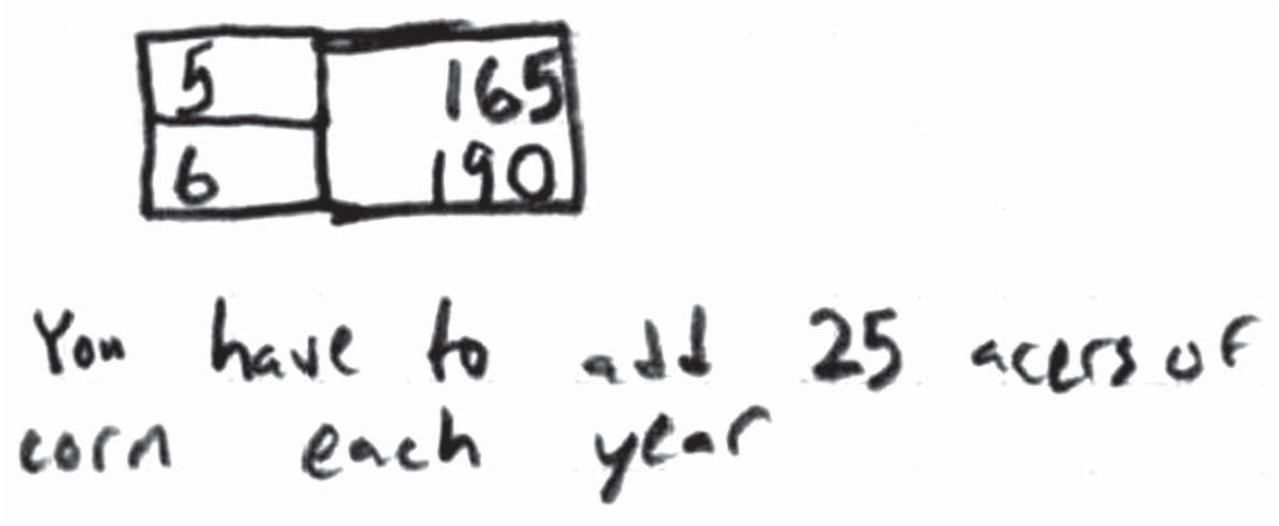
Sample Response

The farmer will have 190 acres of corn because each year she adds 25 acres.

$140 + 25 + 25 = 190$

Sample 2-Point Response with Annotations for Constructed-Response Item 20

20.



Summary annotation statement:

The student provides the correct answer for 6 years (190). The student's explanation shows an understanding of the linear pattern (plus 25).

Sample 1-Point A Response with Annotations for Constructed-Response Item 20

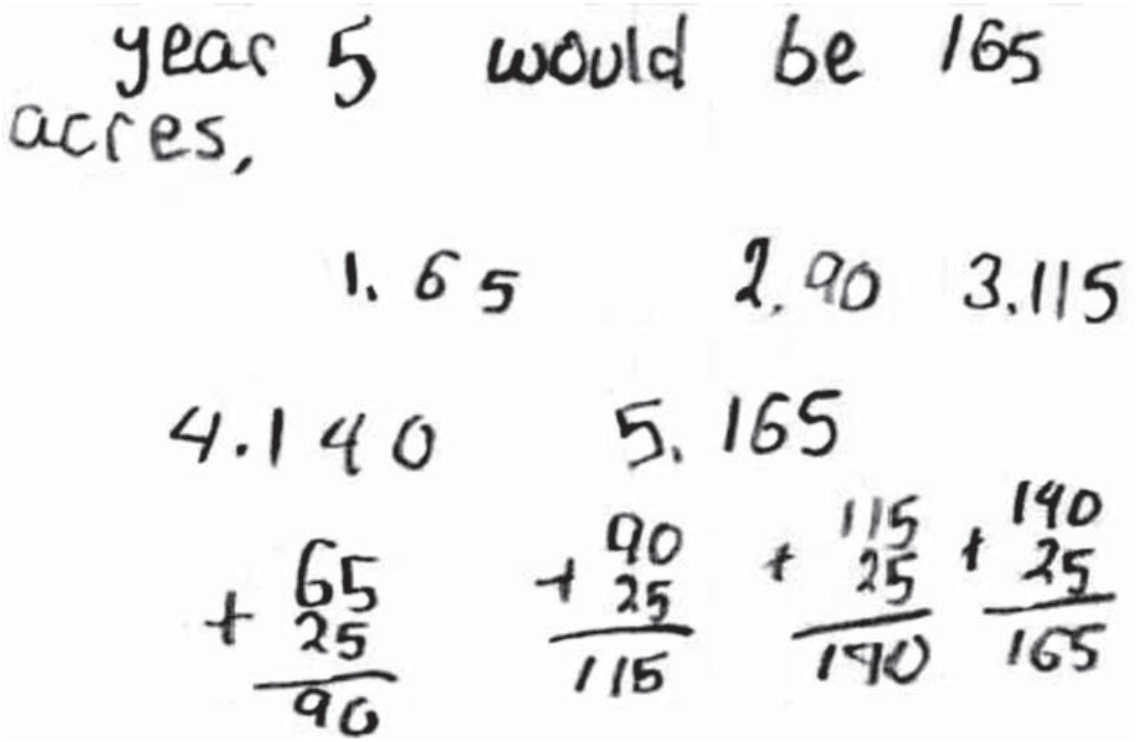
20.

Summary annotation statement:

The student provides the correct answer for 6 years (190) without any explanation or work.

Sample 1-Point B Response with Annotations for Constructed-Response Item 20

20.

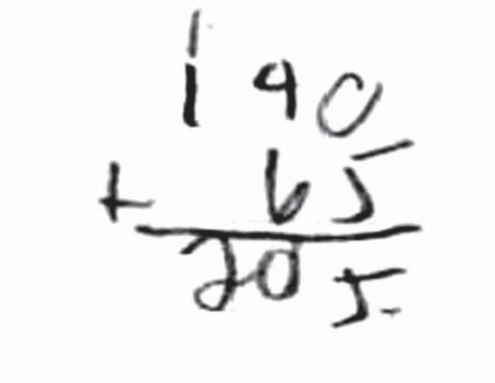


Summary annotation statement:

This student's response demonstrates understanding of the +25 pattern, but only finds the value for year 5. The acres of corn for year 6 was not found.

Sample 0-Point Response with Annotations for Constructed-Response Item 20

20.



Summary annotation statement:

The student's response is incorrect. The procedure shown is an incorrect strategy, and there is no indication or understanding of linear pattern shown.

21. Dominic's test scores for math are 55, 78, 78, 82, 92, 96, and 100. Dominic can choose whether to use the mean, median, or mode of his test scores for his semester grade.

    a. Explain which measure Dominic should choose to receive the highest grade—the mean, median, or mode. Be sure to support your answer with a complete explanation.

    b. The teacher gave one more test before the end of the semester. Dominic's score on the last test was 91. Explain which measure Dominic should choose now to receive the highest grade. Be sure to support your answer with a complete explanation.

CR#: 21
Calculator: Allowed
Cluster: Mathematical Decision Making
Content Standard C: Data Analysis and Statistics- Students will understand and apply concepts of data analysis.
GLE: C1.6 - Students will be able to organize data to find modes, medians, means and ranges for sets of data and displays: Data displays include frequency distributions, tables, line plots, or bar graphs (e.g., given a bar graph, determine the mode, median, range and mean).

CONSTRUCTED-RESPONSE SCORING GUIDE

Percentage of Statewide Student Scores	Score	Description
10%	4	4 points
7%	3	3 points
9%	2	2 points
15%	1	1 point OR Student shows minimal understanding of methods required to calculate the mean, median or mode.
51%	0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
7%	Blank	No response.
.95	Statewide average student score.	

Training Notes for Constructed-Response Item 21

Part a: 2 points — for the correct work or appropriate strategy indicating correct values for mean, median, and mode.

OR

1 point — for some correct strategy shown. Student may correctly compute two of the measures.

Note: Accept alternate ways of identifying mode, including that "the mode is not greater than the other two values" or similar statements.

Part b: 2 points — for the correct work or explanation that shows appropriate strategy.

OR

1 point — for some correct strategy shown. Student correctly computes two of the measures or explains that the mode doesn't change and shows correct strategy for finding the mean and/or median.

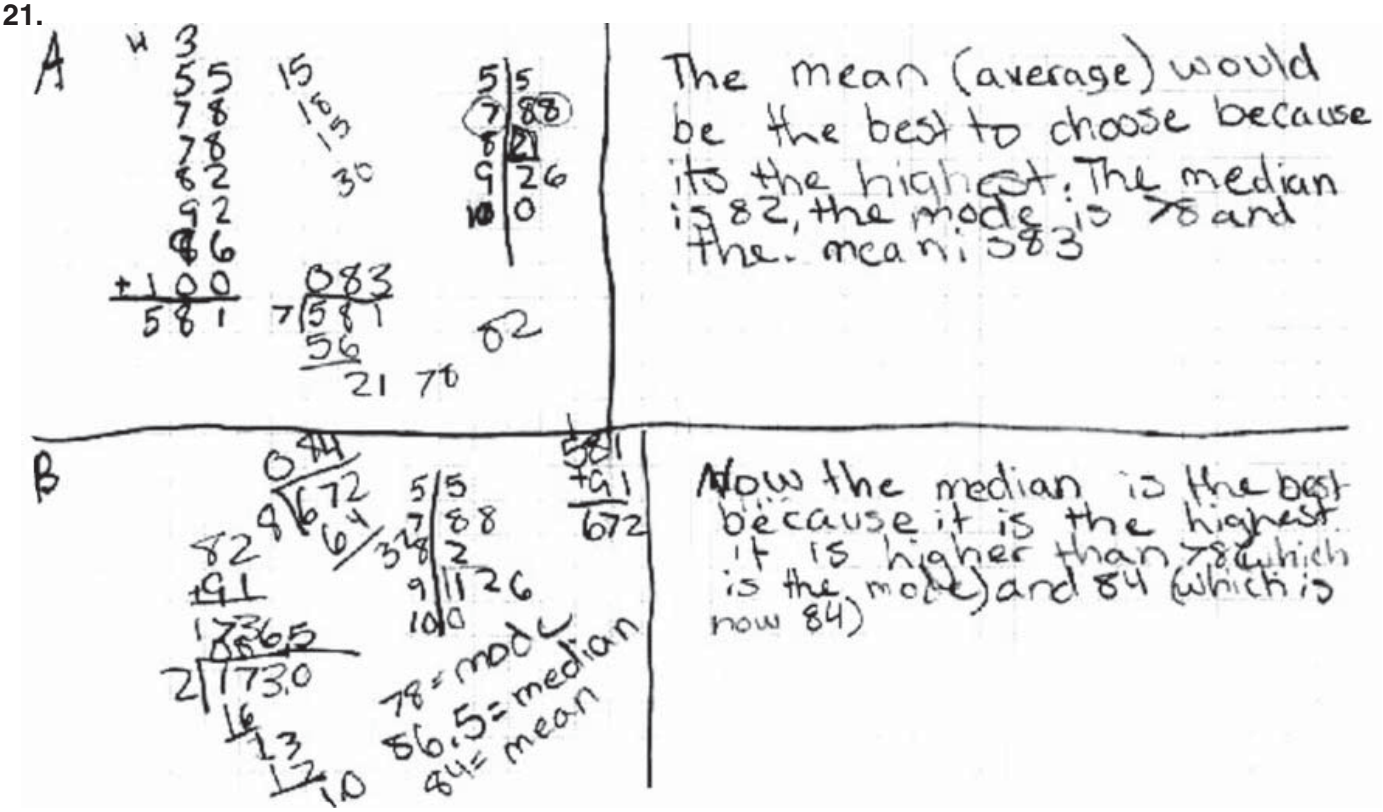
Sample Response

Part a: The median is 82. The mode is 78. The mean is 83. The mean is the greatest number.

Part b: The median is 86.5. The mode is 78. The mean is 84. The median is the greatest number.

Sample 4-Point Response with Annotations for Constructed-Response Item 21

21.

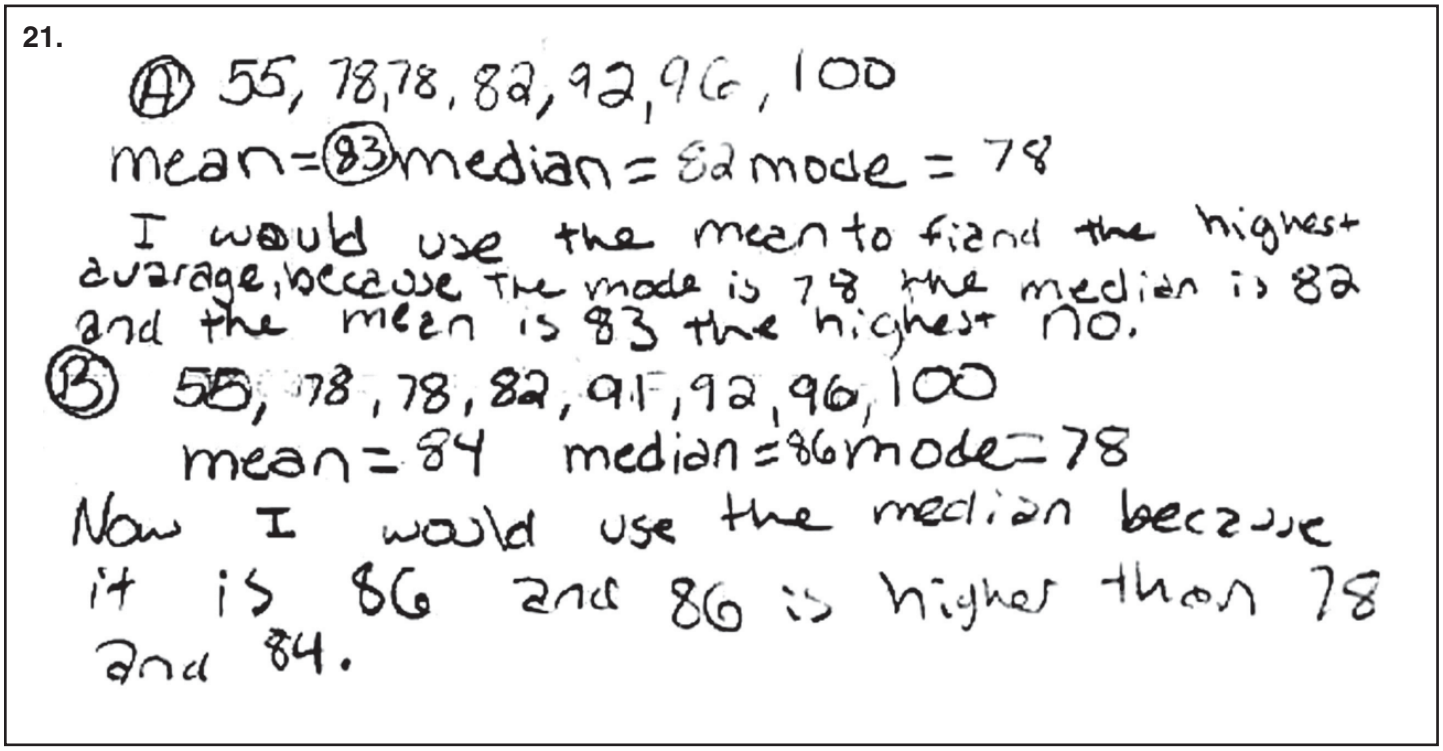


Summary annotation statement:

The student earns 2 points in part a for choosing the correct answer (mean) and completing work correctly for all three measurements. The student earns another 2 points in part b for choosing the correct measure (median) and completing the correct work for all three measures. (Note that the statement in the bottom right quarter of the answer is non-contradictory and the proper term “mean” is identified to the left.) Using the scoring guide, 4 total points is a score point 4.

Sample 3-Point Response with Annotations for Constructed-Response Item 21

21.

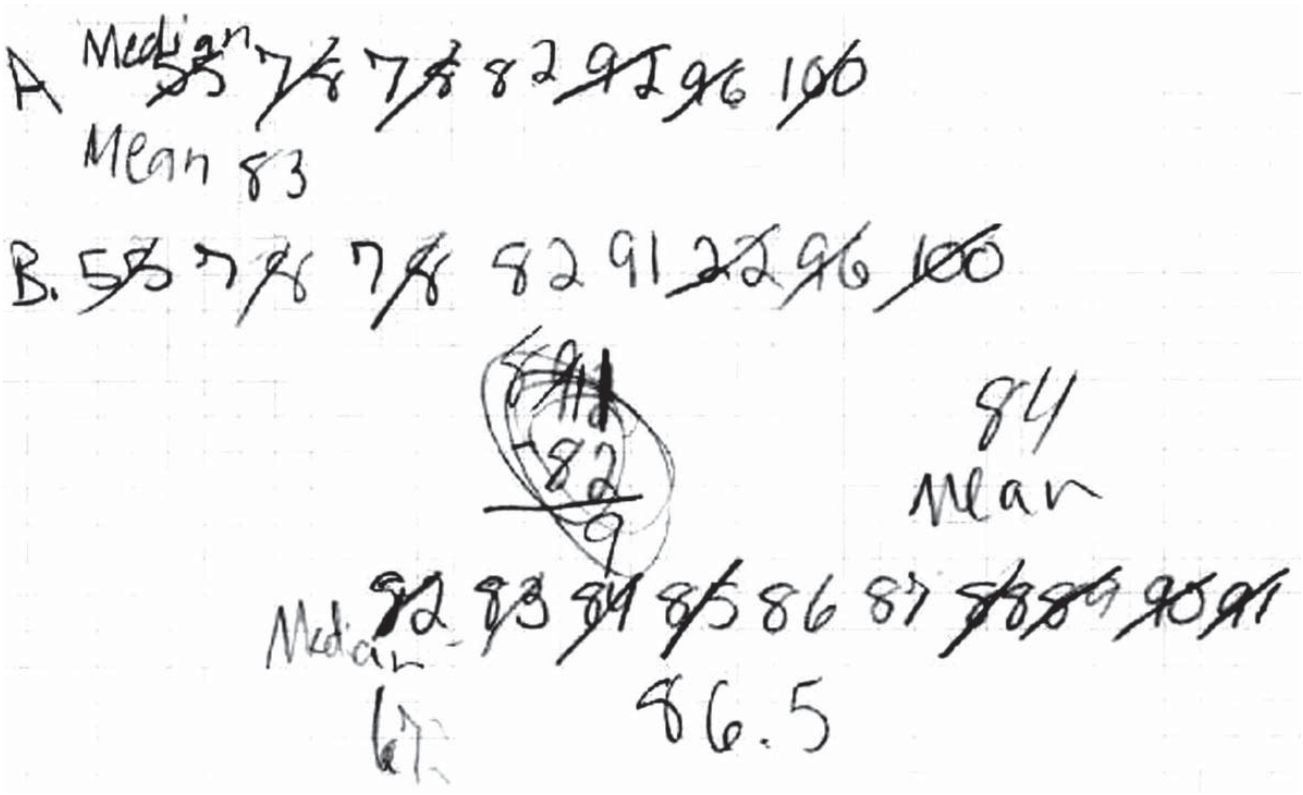


Summary annotation statement:

The student earns 2 points in part a for choosing the correct answer (mean) and completing work correctly for all three measurements. The student earns only 1 point in part b for the correct computations of two measures, but choosing and computing the incorrect answer. According to the scoring guide, 3 total points is a score point 3.

Sample 2-Point Response with Annotations for Constructed-Response Item 21

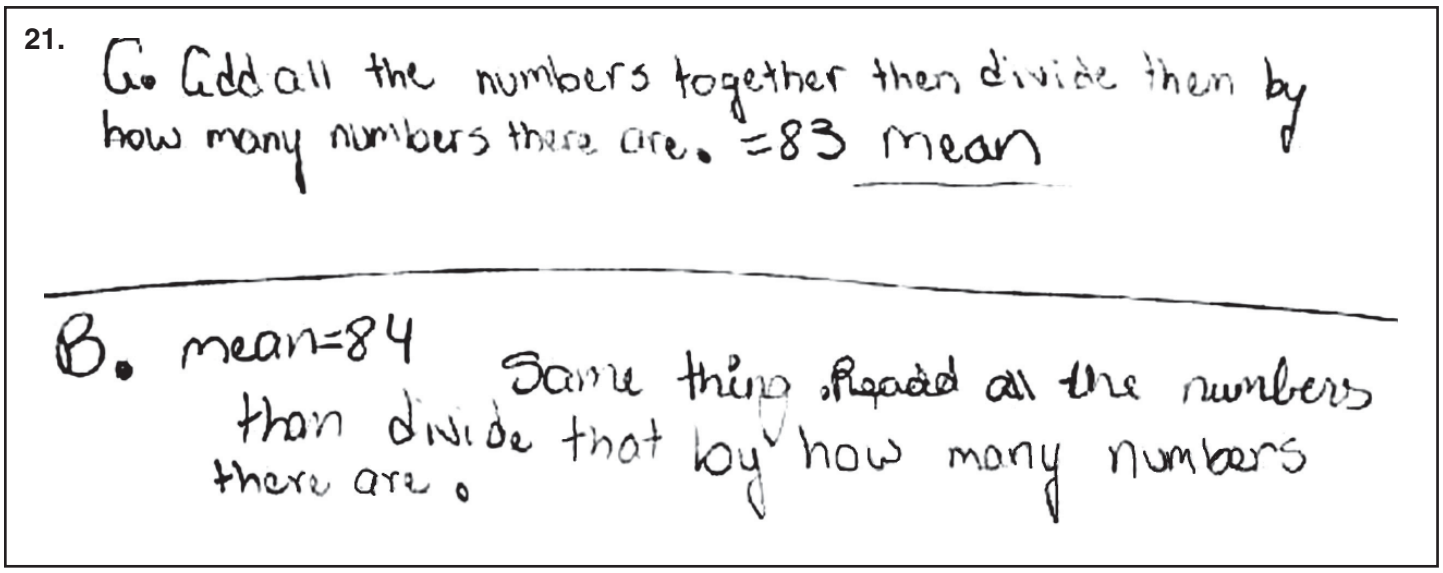
21.



Summary annotation statement:

The student earns 1 point for computing two measurements correctly (median and mean) but is missing the mode. In part b the student earns 1 point for computing the median and the mean correctly, but missing the mode. A total of 2 points earns a score point of 2.

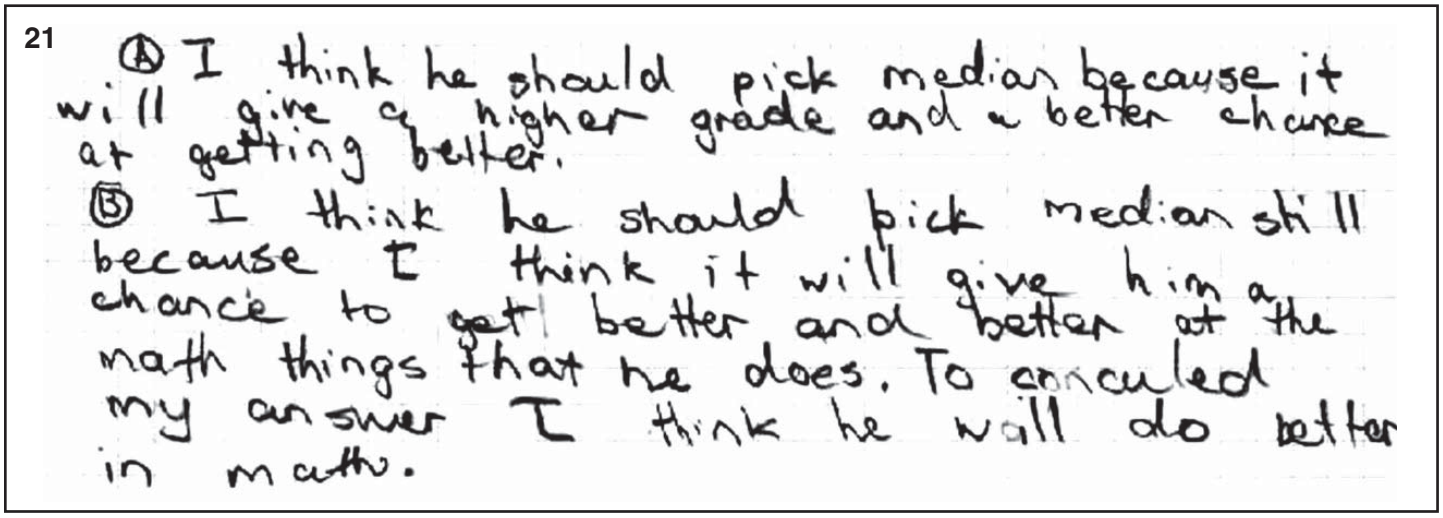
Sample 1-Point Response with Annotations for Constructed-Response Item 21



Summary annotation statement:

The student earns no points in part a or b because only the mean is computed. The student shows minimal understanding of methods by correctly calculating the mean. Using the scoring guide this student earns a score point of 1.

Sample 0-Point Response with Annotations for Constructed-Response Item 21



Summary annotation statement:

The student earns no points in part a because the response is incorrect. The student earns no point in part b because there is no demonstration of an appropriate strategy.